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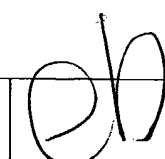
APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/015,587	12/17/2001	Hao-Wen Chiu	BIF114535	5884
466	7590	07/08/2004	EXAMINER	
YOUNG & THOMPSON 745 SOUTH 23RD STREET 2ND FLOOR ARLINGTON, VA 22202			LORENZO, JERRY A	
			ART UNIT	PAPER NUMBER

1734

DATE MAILED: 07/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/015,587	<b>Applicant(s)</b> CHIU ET AL.
	<b>Examiner</b> Jerry A Lorengo	<b>Art Unit</b> 1734



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 April 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 13-30 is/are pending in the application.
- 4a) Of the above claim(s) 1-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/22/02&amp;8/20/03</u> . | 6) <input checked="" type="checkbox"/> Other: <u>IDS filed 12/18/2003</u> .             |

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## **DETAILED ACTION**

(1)

### ***Election/Restrictions***

Applicant's election with traverse of Group II, claims 13-30 in the paper filed April 26, 2004 is acknowledged is acknowledged.

The traversal is on the ground(s) that the assertion that the apparatus as claimed can be used to manufacture non-optical articles such as safety rupture disks for small vessels is untenable. This conclusion is based upon the applicant's contention that non-elected apparatus claim 1, as amended (which is "adapted" for making optical lenses), would not be suitable for forming a safety rupture disk as the heat transfer means adapted to a thermoplastic material lens would be too large for the manufacture of a safety rupture disk.

Notwithstanding the lack of real evidence to support this contention, the examiner respectfully submits that the restriction is proper and further submits that the "adapted" language added to claim 1 by the amendment filed April 26, 2004 would not place any structural limitations on the claimed apparatus. Rather, the apparatus as claimed could be used to practice and another and materially different process such as the manufacture of optical discs. See, e.g., U.S. Patent No. 5,376,317 to Maus et al. at column 4, lines 44-53. As such, the applicant's arguments are not persuasive and the restriction requirement is made FINAL.

(2)

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 13 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,541,534 to Grendol.

Regarding applicant claim 13, Grendol. disclose a method of hot-forming a thermoplastic lens comprising the steps of:

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(1) Providing a mold comprising two dies 59,60 slidably mounted in a sheath 54,55 and capable of sliding along the axis thereof, wherein the dies 59,60 form a transverse forming face facing the other to define a molding cavity 86 and further wherein the sheath 54,55 and dies 59,60 are provided with built-in (intrinsic) heating/cooling means (Figure 4, column 3, line 54 to column 6, line 37; column 6, lines 38-49);

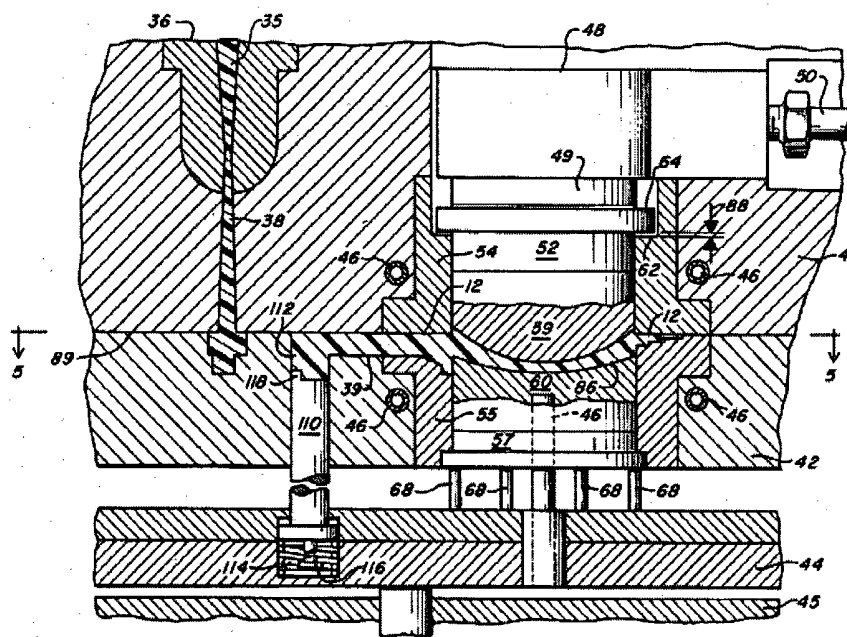
(2) Heating the sheath 54,55 and dies 59,60 to a molding temperature via the built-in heating/cooling means (column 6, lines 41-49);

(3) Placing an unformed mass of thermoplastic material, i.e., a parison, between the two dies 59,60 and the enclosing sheath 54,55 (column 5, lines 18-53);

(4) Moving the dies 59,60 toward one another to shape the material by plastic deformation until a predetermined relative position is reached corresponding to the thickness desired for the lens (column 5, line 54 to column 6, line 3; column 6, lines 4-16);

(5) Cooling the sheath 54,55 and dies 59,60 via the built-in heating/cooling means 7,8,9 to an unmolding temperature (column 6, lines 46-49); and

(6) Removing the finished lens from the mold (column 6, lines 58-60). The method of Grendol is further illustrated by the figure below:



**FIG. 4**

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(3)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,541,534 to Grendol.

Although Grendol discloses that a vacuum exhaust may be applied to the cavity 86 prior to the point at which the dies 59,60 are moved toward one another (column 6, lines 44-46), he does not specifically disclose, as per applicant claim 20, that the suction nozzle passes through the sheath 54,55 nor does he specifically disclose the degree of vacuum pulled, as set forth in applicant claims 21 and 22.

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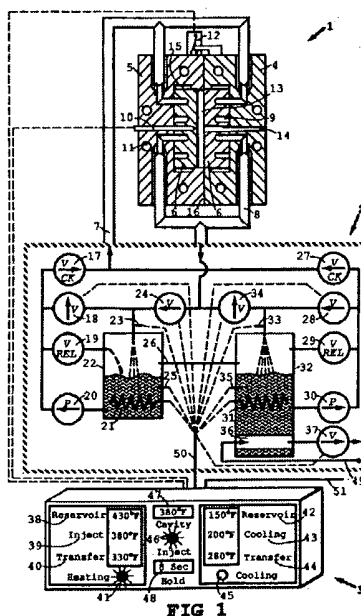
Nonetheless, the skilled artisan would have been appreciative of the fact that the vacuum suction line must pass at some point through the sheath 54,55, motivated by the fact that there would be no other practical point from which to align a vacuum port given the fact that the only remaining point would be at the die faces which would be impractical as such would form sprues at the lens faces. Finally, the claimed vacuum parameters set forth in applicant claims 21 and 22 would have been the result of routine experimentation by one of ordinary skill in the art taking into consideration of the molding pressure utilized, the rheology of the thermoplastic as it is molded, the rate of the molding process and the volume of the molding cavity to be evacuated.

(4)

Claims 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,541,534 to Grendol in view of U.S. Patent No. 5,376,317 to Maus et al.

Although Grendol discloses that the molds and sheath may be heated before placement of the moldable thermoplastic mass and also cooled during the unmolding process, they do not specifically disclose the temperature parameters set forth in applicant claims 14-19.

Maus et al., however, also drawn to methods for the formation of molded thermoplastic lenses discloses a mold comprising two dies 6 mounted in a sheath 4,5 and wherein the dies 6 form a transverse forming face facing the other to define a molding cavity 13 and further wherein the sheath 4,5 and dies 6 are provided with built-in (intrinsic) heating/cooling means 7,8,9 (Figure 1, column 7, line 20 to column 8, line 29). The invention of Maus et al. is illustrated below:



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Specifically regarding applicant claims 14 and 15, Maus et al. disclose that prior to the introduction of the moldable thermoplastic material, the dies 6 and sheath 4,5 are preheated to a temperature in excess of the  $T_g$  of the thermoplastic material to be molded. They also teach that when polycarbonate is molded (having a  $T_g$  of 296°F) the dies and sheath are heated to a temperature of 380°F, which is a temperature difference above the  $T_g$  of 84°F.

Specifically regarding applicant claims 17 and 18, Maus et al. disclose that during the unmolding step, the temperature of the dies 6 and sheath 4,5 are cooled below the  $T_g$  of the thermoplastic material being molded. They also teach that it is known in the prior art for polycarbonate (having a  $T_g$  of 296°F) the dies and sheath are cooled to a temperature of 240-264°F, which is a temperature difference below the  $T_g$  of 32 to 56°F (column 10, lines 52-68).

It would have been obvious to one of ordinary skill in the art at the time of invention to utilize the heating and cooling parameters of Maus et al. in the method of Grendol motivated by the fact that Grendol teaches that it will be appreciated that the times, temperature and forces utilized during molding may be varied (column 6, lines 50-51) and furthermore by the fact that Maus et al. disclose that the heating of the mold dies and sheath above the  $T_g$  of the thermoplastic material being molded retards the solidification during placement of the moldable material in the mold cavity and also minimizes knit-lines and weld-lines in the molded lens (column 4, line 54 to column 5, line 5).

Finally, although Maus et al. do not specifically disclose the specific temperature differentials set forth in applicant claims 16 and 19, the claimed temperature differentials would have been the result of routine experimentation by one of ordinary skill in the art taking into consideration of the teachings of Maus et al. who disclose that the actual temperature differentials are dependent upon the material being molded (column 4, line 54 to column 5, line 5; column 5, lines 27-39).

(5)

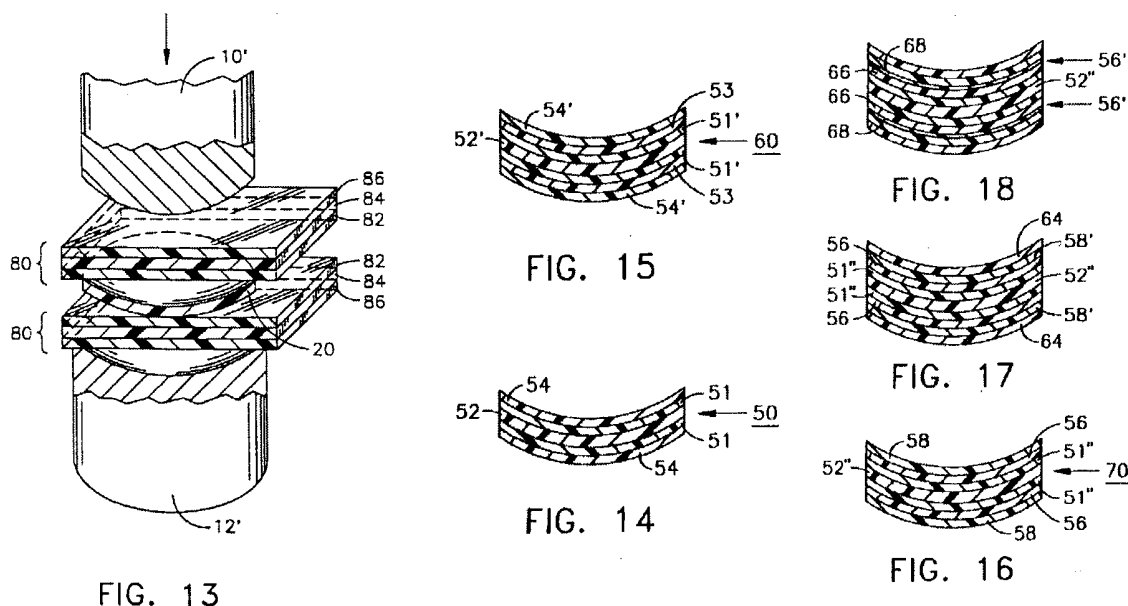
Claims 25-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,541,534 to Grendol in view of U.S. Patent No. 6,180,033 to Greshes.

Although Grendol discloses the overall method for the formation thermoplastic lenses by molding, he does not specifically disclose, as per applicant claims 25-29, the application of surface films to the moldable thermoplastic lens materials during molding.

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Greshes, however, also drawn to methods for the formation of thermoplastic lenses through heated/cooled molding dies acting upon a mass of moldable thermoplastic material placed there between, disclose methods for making in situ a coated or multi-coated lens by molding (Figures 9 and 12-16; column 1, lines 21-38).

Regarding applicant claims 25-29, Greshes disclose that a laminated or coated film(s) having the properties of a photochromaticism, polarization, and/or tint and color, are placed on either side of a perform disposed between a first and second molding dies. Greshes disclose that the molds are then closed around the single and/or multilayer films and perform to shape the preform and films in the form of a lens after which the dies are retracted and the lenses, with the film or films bonded (welded) thereto, are removed (column 14, line 6 to column 16, line 24). The method of Greshes is illustrated below:



It would have been obvious to one of ordinary skill in the art at the time of invention to utilize the methods of Greshes for the application of surface films to the moldable thermoplastic lens materials during molding motivated by the fact that Grendol discloses that the molded lenses may be coated with functional coatings (such as for scratch resistance) or colorings (column 6, lines 58-64) after molding and furthermore by the fact that Greshes discloses that application of the functional coating film layers or coatings during molding, as opposed to post-molding as



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taught by Grendol, enables a more efficient production of functionally coated lenses as opposed to the post-molding or mold casting processes taught in the prior art (column 1, line 21 to column 3, line 9).

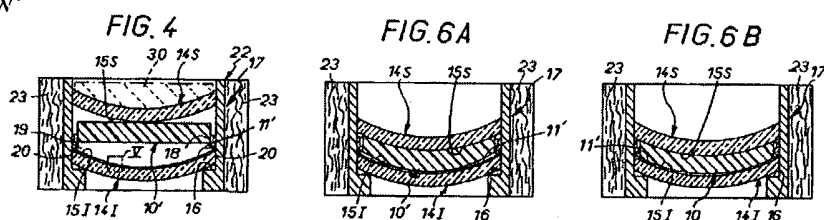
(6)

Claims 24 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,541,534 to Grendol in view of U.S. Patent No. 5,458,820 to Lefebvre.

Grendol discloses the overall method for the formation thermoplastic lenses by molding, followed by the post-treatment of the lens by coating functional, such as scratch-resistant or coloring, layers thereon. He does not, however, specifically disclose, as per applicant claim 24, the formation of functional layers on the material forming the lens prior to molding, or, as per applicant claim 30, the application of a functional coating layer on one of the mold dies which is transferred to the lens molding material during molding.

Nonetheless, it would have been obvious to one of ordinary skill in the art at the time of invention, as per applicant claim 24, to apply a functional coating onto the material to be molded motivated by the fact that Lefebvre, also drawn to methods for the formation of thermoplastic lenses through heated/cooled molding dies acting upon a mass of moldable thermoplastic material placed there between, discloses that such a methodology is well known in the art (column 1, lines 47-60).

It would have also been obvious to one of ordinary skill in the art at the time of invention, as per applicant claim 30, to provide a functional coating layer on one of the mold dies of Grendol which is transferred to the lens molding material during molding, motivated by the fact that Lefebvre discloses that such a method, a.k.a. in-mold coating, is a known method and is especially applicable to lens molding methodologies because it provides a single-step process which yields good adherence between two constituents (the lens and the coating) of different kinds while minimizing the risk of tension stresses in the interface between them (column 2, line 15 to column 3, line 27; column 4, line 7 to column 6, line 34). The method of Lefebvre is illustrated below:



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(7)

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,541,534 to Grendol in view of U.S. Patent No. 4,647,261 to Schaffner.

Although Grendol discloses the overall method for the formation thermoplastic lenses by molding, he does not specifically disclose, as per applicant claim 23, that the mold includes a trimming ring capable of slidably cutting any flash from the molded lens after molding is completed.

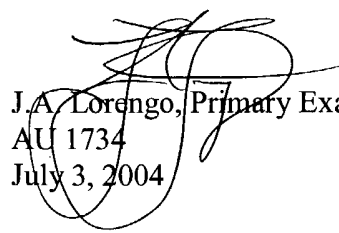
Nonetheless, it would have been obvious to one of ordinary skill in the art at the time of invention to provide the method of Grendol with such a trimming ring motivated by the fact that such trimming rings and punches are well known in the art for removing flash and sprues introduced into the molded article by the molding process. See, for example, the trimming means 6 utilized by Asai in his optical article molding method which is nested in one mold die and which is slidably projected against a periphery (inner) of the molded article to remove the molding sprue (a form of flashing) from the article (Figure 1; column 2, line 63 to column 3, line 6).

(8)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry A Lorengo whose telephone number is (571) 272-1233. The examiner can normally be reached on Monday through Friday, 8:30 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
J. A. Lorengo, Primary Examiner  
AU 1734  
July 3, 2004